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Developing a Guideline for Reporting and Evaluating Grounded Theory Research Studies (GUREGT)

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Abstract

Grounded theory is considered a part of qualitative research but has certain distinctive features. Specific criteria for reporting and evaluating grounded theory research studies are needed and the objective of the study was therefore to develop a guideline for reporting and evaluating grounded theory research studies. The study was conducted in three phases. Phase 1: A structured literature review win PubMed, CINAHL, Cochrane Libraries, Psyc Info and SCOPUS to identify recommendations for reporting and evaluating grounded theory. Phase 2: A selective review of the methodological grounded theory literature of Barney Glaser, Kathy Charmaz, and Anselm Strauss and Juliet Corbin for knowledge in the methodological literature of reporting and evaluating grounded theory studies. Phase 3: An expert panel evaluation of the main areas and items assessed relevant during phase 1 and 2 for reporting and evaluating grounded theory research studies. The study resulted in a 25-item Guideline for Reporting and Evaluating Grounded Theory Research Studies (GUREGT) covering 12 main areas of the grounded theory approach. Researchers and readers applying GUREGT when reporting and/or evaluating grounded theory research studies will improve their abilities to identify information missing in the grounded theory manuscripts as well as preserve the theoretical sensitivity of grounded theory studies.

Keywords: Evaluation, expert panel, grounded theory, guideline, reporting, review,

1. Introduction

Grounded theory was developed in a sociological context by Barney Glaser and Anselm Strauss in the 1960s as a counterpart to the positivistic paradigm (Glaser & Strauss, 1967).

Their aim for grounded theory was to emphasise theory development instead of theory testing and to provide a method for developing theory 'grounded' in data from a systematic qualitative approach (Glaser & Strauss, 1967). Glaser and Straussapproach has inspired the work of generations of qualitative researchers and continues to be an influence today (Charmaz, 2006). Because of divergent opinions on basic grounded theory approach, Glaser and Strauss parted ways in the early 1970s. Glaser continued to elaborate classic grounded theory as first developed (Glaser, 1978), while Strauss continued his work with Juliet Corbin (Strauss & Corbin, 1990) in a more qualitative direction. Grounded theory methodology has continued to grow to this day with inspiration from many new grounded theory researchers, such as Janice Morse, Phyllis Stern, and Adele Clarke (Morse et al. 2009). However, Glaser's former student Kathy Charmaz, with her social constructivist approach, has been the most influential grounded theory approach since Glaser and Strauss (Hutchinson, Johnston, Breckon, 2011).

Grounded theory is considered a qualitative approach because of its use of qualitative methods in data collection and analys is (Charmaz, 2014; Strauss & Corbin, 1990). However, grounded theory has distinctive features, which separate the approach from other qualitative methodologies such as phenomenology, hermeneutics and ethnographic due to differences in ontology and epistemology (Hutchinson et al. 2011). The distinctive features include the constant

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comparative method, theoretical sampling, memo-writing, as well as simultaneous and parallel data collection, analysis and coding (Hutchinson et al. 2011; Becker, 1993; Elliott & Lazenbatt, 2005).

Since qualitative research is not a homogenous research area, specific criteria are needed for reporting and evaluating grounded theory research studies.

1.1. Reporting and evaluating grounded theory research

Grounded theory studies are often accused of inconsistency, lack of rigour and a poor understanding of the grounded theory approach (Hutchinson et al. 2011; Valvi, Frangos, Frangos, 2013;Benoliel, 1996; Becker, 1993). In two critical reviews of grounded theory studies, several misconceptions of grounded theory methodology were detected (Hutchinson et al. 2011; Valvi et al. 2013). A critical review of grounded theory studies published between 1999 and 2008 within exercise psychology showed that in nine out of the 21 included studies, the researchers had only used grounded theory analysis, and in 12 studies data collection and analysis were performed separately (Hutchinson et al. 2011). Hutchinson and colleagues (2011) outlined the misconceptions as viewing grounded theory as solely a data analysis tool, and collecting and analysing data separately, which they argued is not coherent with grounded theory methodology. Hutchinson and colleagues (2011) also argued the importance of implementing grounded theory as an entire package, focusing on simultaneous data collection, analysis, coding and theoretical sampling. A study comprising a critical evaluation of grounded theory studies in online and mobile customer behaviour showed the inconsistent use of memos, inadequate use and description of coding levels and insufficient use of the constant comparison methods. Valvi and colleagues (2013) identified the pitfalls in the included grounded theory studies as a lack of theoretical sensitivity, theoretical sampling, memo-writing, and reviewing the literature. Becker (1993) advises that researchers must become familiar with the grounded theory methodology to make the rationale for conducting grounded theory logical and to enhance the credibility of grounded theory research. Even though the methodological inconsistencies can be attributed to the researchers McCann and Clark (2004) argues that these shortcomings also appears due to inconsistencies in the way the grounded theory methodology is presented to the researchers. Grounded theory is considered to be a complex method where epistemological assumptions and process is not clearly explicated (McCann & Clark, 2004).

In this study we argue that grounded theory is distinctive to other qualitative approaches such as hermeneutic and phenomenology and therefore requires an entirely different type of reporting and evaluation. Others (O'Brien, Harris, Beckman, Reed, Cook, 2014; Tong, Sainsbury, Craig, 2007) have also emphasised that a more approach-specific checklist of qualitative related studies should be developed. Two current checklists for reporting qualitative studies The Consolidated criteria for reporting qualitative research (COREQ) (Tong et al. 2007) and Standards for reporting qualitative research (SRQR) (O'Brien et al. 2014) were found on the Equator (Enhancing the quality and transparency of health research) network

(http://www.equator-network.org/?post_type=eq_guidelines&eq_guidelines_study_design=qualitative-research&eq_guidelines_clinical_specialty=0&eq_guidelines_report_section=0&s=). Both checklists were developed for qualitative research in general howeverthey do not meet the specific criteria for the diversity in the specific qualitative research methodologies. In this study we argue the adequacy of a single checklist meeting all criteria for a qualitative research approach since qualitative research has a long tradition of various epistemological and ontological perspectives. The distinctive methodology of grounded theory must be recognised and described, so reporting and evaluating grounded theory studies can be as comprehensive as possible in accordance with the methodology.

1.2. Aim and objectives

The aim of this study was to develop a comprehensive guideline for reporting and evaluating grounded theory research studies.

The guideline was developed through three phases. Phase 1 consisted of a review of the literature in scientific databases describing the main areas relevant for reporting and evaluating grounded theory research studies. Phase 2 consisted of a review of the methodological grounded theory literature to extract knowledge of the main areas for reporting and evaluating grounded theory studies. Phase 3 consisted of an expert panel evaluation of themain areas and

underlying items of reporting and evaluating grounded theory studies extracted from the literature included in phase 1 and 2.

2.1. Phase 1: Reviewing the literature from scientific databases

2. Methods and materials

A structured literature review was conducted by all authors in PubMed/MEDLINE, CINAHL, Cochrane Libraries, PsycInfo/Proquest and SCOPUS in March 2017 to identify studies of instructions and recommendations for reporting and evaluating grounded theory research studies. There were no restrictions on language or year of publication. Exclusion criteria were studies on specific use of single elements in grounded theory, primary research studies using grounded theory, clinical literature reviews and studies using qualitative methods. The search string consisted of the main search terms 'grounded theory', 'reporting' and 'evaluating', combined with search terms such as 'checklist', 'method', 'standard', 'quality', 'tool' and 'guideline'.

Boolean terms were added, combined with search terms such as 'qualitative', 'phenomenology', 'hermeneutic', 'review', 'intervention', 'original' and 'mixed methods', in order to exclude irrelevant studies. All authors reviewed the reference lists of the full text studies included to identify eligible studies not included in the structured search.

2.1.1. Data extraction of the literature from scientific databases

Initially the authors separately screened the full text studies included in the literature review for recommended areas of reporting and evaluating grounded theory studies. Each area(study aim, philosophical framework, the researcher's role, data collection, memos, sampling procedures, theoretical saturation, analysis and coding, review of literature, results/ the theory, discussion, and evaluation criteria) was scrutinised for specific items and the authors separately constructed a list of all the items identified as important for the main areas.

Secondly the authors discussed the specific items extracted by each author and arrived at a consensus according to the relevance and accuracy of each item. The items were then condensed to a list comprising the 25 items covering 12 main areas to consider for reporting and evaluating grounded theory research studies.

2.2. Phase 2: Reviewing the methodological grounded theory literature

All authors conducted a selective review of the methodological grounded theory literature by Glaser, Charmaz, and Strauss and Corbin based on the 25 items covering 12 main areas to extract knowledge of the methodology for reporting and evaluating studies using their grounded theory approach. The grounded theory approaches of Glaser, Charmaz, and Strauss and Corbin were chosen as these were referred to in the included full-text studies from phase 1. They furthermore represent the first and second generation of grounded theory who still has a great influence on academic discussions concerning grounded theory methodology. 'Theoretical Sensitivity' (Glaser, 1978) and 'Doing grounded theory: Issues and Discussions' (Glaser, 1998) were selected from Glaser's methodological publications, because of their in-depth descriptions of the grounded theory approach from a classical grounded theory perspective. Charmaz' (2006) first edition of 'Constructing Grounded Theory. A Practical Guide Through Qualitative Analysis' was chosen from her publications as it provides grounded theory strategies for constructing theory through a social constructivist perspective, as opposed to her second edition (Charmaz, 2014) in which selected researchers have contributed in describing the methods. 'Basics of qualitative research. Techniques and procedures for developing grounded theory' (Strauss & Corbin, 1990) was selected from the methodological publications of Strauss and Corbin because of their descriptions of grounded theory methodology from a symbolic interactionist perspective.

2.2.1. Data extraction of the methodological grounded theory literature

Initially, the authors separately reviewed the books by Charmaz (2006), Glaser (1978, 1998), and Strauss and Corbin (1990) searching for the main areas and items identified in phase 1 as relevant for reporting and evaluating grounded theory studies. Secondly, each item for reporting and evaluating grounded theory research was then compared to the 25-items list for elaborations, replacements and/or for descriptions of items not mentioned in the literature review of phase 1. Finally, the authors discussed each item until arriving at a consensus according to the relevance and accuracy of each item.

2.3. Phase 3: Expert panel evaluation

Ten researchers, who had previously published papers applying grounded theory method, were invited to participate in an expert panel to test face and content validity of the extracted items.

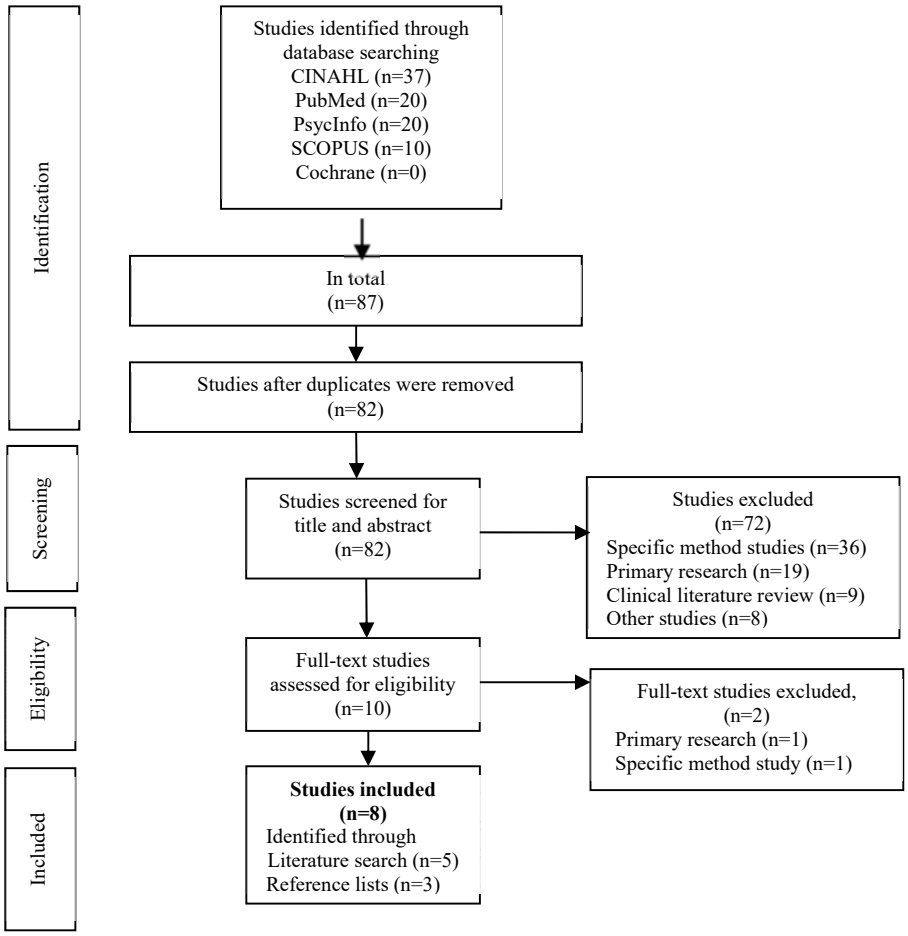
The first author contacted the researchers by email with information about the study purpose and the amount of participation that would be required. Six researchers with expertise in grounded theory methodology according to Glaser, Charmaz, and Strauss and Corbin, accepted the invitation to evaluate the 25 items on a 4-point Likert scale (1=irrelevant and should be deleted; 2=seemingly relevant but major revision of item required; 3=relevant but in need of small adjustments; 4=relevant, clear and precise) with lines for comments. The panel members were given two weeks to evaluate the items – a deadline which they all met.

3. Results

3.1. Phase 1: Reviewing the literature of scientific databases

Through our review of literature in databases, reference lists, and journal quality appraisal guidelines 87 studies were identified using the Preferred Reporting Items for Systematic Reviews and Meta-analysis (The PRISMA) statement (Liberati et al., 2009; Moher, Jones, Lepage, 2009) (Figure 1).

Figure 1: PRISMA flow chart for the literature review from scientific databases



During the screening process five studies were excluded as duplicates; 72 studies were excluded, in accordance with the exclusion criteria, on the basis that they were studies on the specific use of single elements in grounded theory (n=36), or primary research studies using grounded theory (n=19), or clinical literature reviews (n=9), or others (n=8). The ten remaining studies were assessed for eligibility. Two studies were excluded for being primary research and specific method studies. Finally, eight studies were included (Becker, 1993; Cutcliffe, 2000; Mellion & Tovin, 2002; Elliott & Lazenbatt, 2005; Kennedy & Lingard, 2006; Chen & Boore, 2009; Hutchison et al. 2011; Valvi et al. 2013) (Table 1) from the literature search in databases (n=5) and their reference lists (n=3) for containing instructions and recommendations for reporting and evaluating grounded theory research studies. No studies were excluded from the analysis based on quality assessment.

The eight eligible studies included from the review (table 1) werepublished between the years 1993 to 2013 in peer-reviewed journals. Six studies were reviews with a methodological (n=3) (Mellion & Tovin, 2002; Elliott & Lazenbatt, 2005; Chen &Boore, 2009), critical (n=1) (Hutchison et al. 2011), systematic (n=1) (Valvi et al. 2013) or simply review (n=1) (Cutcliffe, 2000) approach and two studies were methodological discussions (Becker, 1993; Kennedy & Lingard, 2006). Five studies were identified from the search in databases (Mellion & Tovin, 2002; Elliott & Lazenbatt, 2005; Kennedy & Lingard,2006; Chen & Boore, 2009; Valvi et al. 2013) and three from reference lists of included studies (Becker, 1993; Cutcliffe, 2000; Hutchison et al. 2011).

Three studies discussed the grounded theory methodology of Glaser, Charmaz, and Strauss and Corbin (Chen & Boore, 2009; Valvi et al. 2013; Hutchison et al. 2011), two studies discussed Glaser and Strauss and Corbin (Kennedy & Lingard, 2006; Cutcliffe, 2000), two studies discussed Glaser (Elliott & Lazenbatt, 2005; Becker, 1993), and one study discussed Strauss and Corbin (Mellion & Tovin, 2002). None of the eight included studies discussed all the 12 main areas but only variations of 25 selected items (table 2).

3.2. Phase 2: Reviewing the methodological grounded theory literature

In the selective review of the methodological grounded theory literature by Glaser (1978, 1998), Charmaz (2006), and Strauss and Corbin (1990) the authors focused on the 12 main areas and 25 items from the emerging guideline. Since the eight included studies from phase 1 lacked descriptions of some items according to the three methodologies (the blank spaces in table 2) the authors focused on finding the missing data in the methodological

Table 1: Overview of the studies included in the literature review (n=8)

Authors and date of publication	Journal	Study aim	Type of paper/design	Grounded theory methodology discussed	Retrieved from
Becker (1993)	Qualitative Health Research	To highlight some of the pitfalls that researchers who wish to use grounded theory should avoid	Methodological discussion	Glaser	Reference lists of Valvi et al. (2013) Mellion and Tovin (2002)
Cutcliffe (2000)	Journal of Advanced Nursing	To identify and address four key issues, namely, sampling, creativity and reflexivity, the use of literature, and precision within grounded theory	Review	Glaser Strauss and Corbin	Reference lists of Valvi et al. (2013) Mellion and Tovin (2002) Chen and Boore (2009)
Mellion and Tovin (2002)	Physiotherapy Theory and Practice	To introduce the tenets of the grounded theory methodology, to present examples of how the methodology can be applied to physiotherapy research, and to suggest criteria for evaluating grounded theory studies.	Methodological review	Strauss and Corbin	Electronic search in database
Elliott and Lazenbatt (2005)	Australian Journal of Advanced Nursing	To introduce clinical practitioners in how to recognise a 'quality' grounded theory research study	Methodological review	Glaser	Electronic search in database
Kennedy & Lingard (2006)	Medical Education	To provide an introduction to key features of grounded theory methodology within the context of medical education research	Methodological discussion	Glaser Strauss and Corbin	Electronic search in database
Chen and Boore (2009)	Journal of Clinical Nursing	To introduce a synthesised technique for using grounded theory in nursing research	Methodological review	Glaser Charmaz Strauss and Corbin	Electronic search in database
Hutchison et al. (2011)	Qualitative Research in Psychology	To critically review the use of grounded theory within exercise psychology and to highlight how this research approach is being interpreted and applied within this context	Critical review	Glaser Charmaz Strauss and Corbin	Reference list of Valvi et al. (2013)
Valvi et al. (2013)	Behaviour & Information Technology	To critically evaluate studies employing grounded theory	Systematic review	Glaser Charmaz Strauss and Corbin	Electronic search in database

Table 2: Content of included studies' discussion of the main areas of the guideline

Main area	Becker (1993)	Cutcliffe (2000)	Mellion and Tovin (2002)	Elliott and Lazenbatt (2005)	Kennedy and Lingard (2006)	Chen and Boore (2009)	Hutchison et al. (2011)	Valvi et al. (2013)
Study aim	+	+	+	+	+			
Philosophical framework	+	+	+		+	+		+
The researchers' role	+	+				+		+
Data collection	+		+		+	+		
Memos			+	+	+	+		+
Sampling procedures	+	+	+	+	+	+		+
Theoretical saturation	+	+	+		+	+		+
Analysis and coding		+	+	+	+	+		+
Review of literature	+	+	+			+		+
Results/theory		+	+		+			+
Discussion			+		+			
Evaluation criteria			+	+			+	

literature as well as enhancing the density of the items already discussed in the literature from the databases.

3.3. Phase 3: Expert panel evaluation

The 25-item guideline was evaluated by the six expert panel members focusing on their area of expertise in grounded theory method according to Glaser, Charmaz, and Strauss and Corbin.

The evaluation of the Glaserian grounded theory methodology was on average 3.5 (median 4) on the Likert-scale. No items were evaluated as being irrelevant and deleted; however, three items were evaluated as seemingly relevant but in need of adjustments. The items specific to Strauss and Corbin's grounded theory approach were evaluated as 3.33 on average (median 3.5). Three items were given 1 point; one item was suggested to be moved to the discussion part and two items were evaluated as irrelevant. The evaluation of the items specific for Charmaz' grounded theory was on average 3.2 (median 4). Two items were given one point, and it was suggested that these two items be altered. All expert panel members had given suggestions for revisions and adjustments to items evaluated from 1 – 3.

The authors met to discuss the evaluations and comments from the expert panel members, including the expert panel members' suggestions for adjustments. 23 items were adjusted and reworded relevant to Glaser (n=5), Strauss and Corbin (n=9), and Charmaz (n=9). The items given one point (n=5) were reworded with suggestions from, and discussions with, the expert panel members. No items were deleted.

The final Guideline for Reporting and Evaluating Grounded Theory research studies (GUREGT) was approved in consensus between all three authors. The GUREGT consists of 25-items covering 12 main areas essential for reporting and evaluating grounded theory research studies with a description to support each item based on the grounded theory methodologies of Glaser, Charmaz, and Strauss and Corbin (Table 3).

3.4. Rationale of the GUREGT items

In the following section each of the 12 main area and belonging items of the GUREGT guideline will be described and explained.

3.4.1. Study aim

Grounded theory originates from sociology and is relevant when the study aim involves theory development of social interactions and complex relationships between humans, apart from qualitative research where experiences, narratives and descriptions are essential (Holton, 2008). Grounded theory researchers closely observe patterns of behaviour and social processes in social interactions and within the social context (Charmaz, 2006) and aim to generate a theory (Glaser, 1978; Becker, 1993; Cutcliffe, 2000) or a theoretical explanation that accounts for that behaviour (Strauss & Corbin, 1990; Mellion & Tovin, 2002). The researchers should therefore clarify the aim according to the specific grounded theory methodology chosen for the reader to evaluate.

3.4.2. Philosophical framework

The researchers should be attentive to the philosophical underpinning of the grounded theory study, which varies within the three grounded theory approaches and from

Table 3: The Guideline for Reporting and Evaluating Grounded Theory research studies (GUREGT)

Main area	IItem	Grounded theory methodology		
		Glaser	**Strauss and Corbin**	**Charmaz**
Study aim	1	Is the grounded theory study aim presented to generate a theory of patterns of behaviour?	Is the grounded theory study aim presented to develop a well-integrated set of concepts that provide a theoretical explanation of a social phenomenon?	Is the grounded theory study aim presented to construct a theory focusing on examining process and actions?
Philosophical framework	2	Is the grounded theory embedded in any philosophical background? Why and how?	How is the grounded theory embedded in symbolic interactionism?	Is the grounded theory embedded in symbolic interactionism and social constructivism?
The researchers' role	3	Is the researcher's theoretical sensitivity described according to conceptual thinking, level of insight into the research area and ability to generate meaning from data?	Is the researchers' theoretical sensitivity according to theoretical insight, professional and personal experience, described and explained?	Is the researchers' reflective and interpretive stance in a two-way interaction with the participant described and explained?
Data collection	4	Is data collection methods described and explained?	Is data collection methods described and explained?	Is data collection methods described and explained?
	5	Has qualitative or quantitative data collection methods been used? How and why?	Has qualitative or quantitative data collection methods been used? How and why?	Has qualitative or quantitative data collection methods been used? How and why?
Memos	6	Has memos been written throughout the study about concepts and categories and are they used to formulate and generate the theory?	Has field notes and diagramming been written and used throughout the study about concepts and categories and are they used to formulate and develop the theory?	Has memos been written throughout the study about concepts and categories and are they used to formulate and construct the theory?
Sampling procedures	7	Is initial sampling conducted in the beginning of data collection described and explained?	Is open, relational and variational sampling conducted in the beginning of data collection described and explained?	Is initial sampling conducted in the beginning of data collection described and explained?
	8	Is theoretical sampling of the emerging categories and theory from the data collection described and explained?	Is theoretical and discriminate sampling of the emerging categories and theory from the data collection described and explained?	Is theoretical sampling of the emerging categories and theory from the data collection described and explained?
	9	Is the selection of participants guided by theoretical sampling? How?	Is the selection of participants guided by theoretical sampling? How?	Is the selection of participants guided by theoretical sampling? How?
Theoretical saturation	10	Is the reach of theoretical saturation explained according to no new insights relevant for the emergent theory?	Is the reach of theoretical saturation explained according to no new insights relevant for the emergent theory?	Is the reach of theoretical saturation explained according to no new insights relevant for the concepts and categories and the emergent theory?
Analysis and coding	11	Is the coding levels and concurrent process of coding described according to open, selective and theoretical coding?	Is the coding levels and concurrent process of coding described according to open, axial (the paradigm model) and selective coding? And is matrix building and storyline applied and described? How?	Is the coding levels and concurrent process of coding described according to initial, focused and theoretical coding?
	12	Which concepts has guided the specific coding levels and how?	Which categories has guided the specific coding levels and how?	Which codes has guided the specific coding levels and how?
	13	Is the core category identified before conducting selective coding?	Is the central category identified before conducting selective coding?	Is the basic social process identified before conducting focused coding?
	14	Which theoretical codes have structured the theory to a progressive level of abstraction?	Which categories have contributed to identify the density, internal consistency and gaps in logic of the parsimonious theory?	Which theoretical codes have structured the theory to a progressive level of abstraction?
	15	Is the constant comparison method used to compare incidents with incidents, incidents with categories and categories with categories?	Is the constant comparison method used to compare incidents with incidents, incidents with categories and categories with categories?	Is the constant comparison method used to compare incidents with incidents, incidents with categories and categories with categories?
	16	Is the simultaneous data collection, analysis and coding guided by the theoretical sampling and writing memos described and explained?	Is the simultaneous data collection, analysis and coding guided by the theoretical sampling and writing memos described and explained?	Is the simultaneous data collection, analysis and coding guided by the theoretical sampling and writing memos described and explained?

Table 3: The Guideline for Reporting and Evaluating Grounded Theory research studies (GUREGT) (Continued)

	IItem	Grounded theory methodology		
		Glaser	**Strauss and Corbin**	**Charmaz**
Review of literature	17	Is the literature reviewed avoided initially in the grounded theory study? Why and how?	Is general literature reviewed initially in the grounded theory study to assist in formulating questions? Why and how?	Is the literature reviewed initially in the grounded theory study to expand the contextual framework? Why and how?
	18	Is the literature reviewed after theory development on the basis of the emerging concepts and theory? How and on what grounds?	Is an extensive literature reviewed performed after theory development on the basis of the emerging concepts and theory? How and on what grounds?	Is the literature reviewed during theory development on the basis of the emerging concepts and theory? How and on what grounds?
Results/ the theory	19	Is the main concern presented and explained?	Is the main concern presented and explained?	Is the main social interactions of the theory presented and explained
	20	Is the core category and the related categories presented and explained?	Are the central category and the related categories, properties and dimensions presented and described?	Is the basic social process and the related categories presented and explained?
	21	Does the theory account for the overall pattern of behaviour in the substantive area?	Does the theory provide a thorough theoretical explanation of the social phenomenon?	Does the theory account for the essential processes and actions in the social interactions of the participants?
	22	Is conceptualization used rather than description using quotes when writing the theory?	Are quotes used and argued for to describe the theory?	Are quotes used and argued for to describe the theory?
Discussion	23	Are the key relationships between the core category and concepts discussed and related to relevant literature?	Are the key relationships between the central category and categories discussed and related to relevant literature?	Are the key relationships between the categories and codes discussed and related to relevant literature?
Evaluation criteria	24	Are the criteria of fit, work, relevance, and modifiability presented and explained?	Are the criteria of validity, reliability and credibility of data presented and explained?	Are the criteria of credibility, originality, resonance, and usefulness, as well as fit, work, relevance, and modifiability presented and explained?
	25	Are the evaluation criteria used to evaluate the theory?	Are the evaluation criteria used to evaluate the theory?	Are the evaluation criteria used to evaluate the theory?

qualitative research studies where the epistemological and ontological framework often consists of phenomenology and hermeneutics. Whereas Strauss and Corbin (Cutcliffe, 2000; Straus & Corbin, 1990) and Charmaz (Charmaz, 2006) emphasise a symbolic interactionist approach, Charmaz additionally emphasises social constructivism (Charmaz, 2014). Glaser (Kennedy & Lingard, 2006; Glaser, 1998) opposes all theoretical or philosophical frameworks as a background for conducting grounded theory in order to avoid preconceived knowledge when entering the field and to maintain an inductive approach. The researchers should explain their considerations of applying a philosophical framework in their grounded theory study so that the reader can understand which philosophical perspective and standpoint the researchers had when conducting the grounded theory study.

3.4.3. The researchers' role

The researchers' role is important to describe in a grounded theory study in order for the reader to understand the researchers' actions during the research process. This is somewhat different from qualitative research, where the researchers' professional and personal characteristics are emphasised (Tong et al. 2007; O'Brien et al. 2014). The three grounded theory approaches in this study differ individually in this area. Glaser (Becker, 1993; Glaser, 1998) focuses on the concept of theoretical sensitivity, which is the researcher's openness to emerging data, and the researcher's sensitivity to the participants' differences and complexities in meaning and interpretation of their situation (Valvi et al. 2013; Glaser, 1978). Strauss and Corbin (Strauss & Corbin, 1990) also focus on the researchers' theoretical sensitivity to respond to small details and meaning. However, they differ from Glaser in stating that sensitivity comes from the researchers' professional and personal experiences and literature (Chen & Boore, 2009). According to Charmaz (Charmaz, 2006) the researcher's role should be reflective and interpretive in theory development, which is closely related to her social constructivist perspective. It is therefore important that the grounded theory researchers carefully report their role in the research process according to the grounded theory approach chosen.

3.4.4. Data collection

The description of data collection in grounded theory studies should be thorough in order to explain to the reader how data were collected, on what concepts and categories the data collection was based, and how data collection was controlled by the emerging theory (Becker, 1993; Glaser, 1998; Charmaz, 2006; Strauss & Corbin, 1990).

In qualitative research it is important to describe the data collection to enhance the credibility and dependability of the study (Lincoln & Guba, 1985) and in grounded theory the description also supports the criteria of fit (Hutchinson et al. 2011).

In grounded theory data collection is not restricted to specific data collection methods as in qualitative research, where it is mainly interviews, observations and text sources which are used (Polit & Beck, 2014; Chen & Boore, 2009). Grounded theory allows the researchers to use both qualitative and quantitative data sources to obtain a broad perspective on the categories in the notion that 'All is data' (Mellion & Tovin, 2002; Glaser, 1998)while in Charmaz' (2006) approach the data collection method is based on ethnographic methods.

The researchers should explain why they chose the specific data collection method and how they used it to further saturate the concepts and categories. The need for a detailed description and explanation of the data collection process is similar in the three grounded theory approaches in this study.

3.4.5. Memos

Keeping memoranda is a core activity in all three grounded theory approaches (Chen & Boore, 2009) and does not equate to field notes (Glaser, 1998). Memoing is the documentation of ideas about and relations between the concept and categories to be used for theory building at the end of the grounded theory study (Elliott & Lazenbatt, 2005), while field notes are written during observations and interviews as a data collection method (Polit & Beck, 2014). Memos are used for the same purpose in the three grounded theory approaches of this study– to formulate and develop the theory (Glaser, 1998; Charmaz, 2006; Strauss & Corbin, 1990). However, different terms are used for memos: Glaser (Elliott & Lazenbatt, 2005; Valvi et al. 2013; Kennedy & Lingard, 2006) and Charmaz (Chen & Boore, 2009) use the term 'memoing', while Strauss and Corbin (Chen & Boore, 2009) describe the process as 'diagramming' – but the activity and goal of writing memoranda are similar. It is important that the researchers have described their use of memos, when the memos were written and how they contributed to the final theory to enlighten the reader in the memo-writing process and to elaborate the essence of the memos. However, it is not necessary to describe the memos further as they become a part of the theory.

3.4.6. Sampling procedures

The sampling procedure is one of the methodological parts that distinguish grounded theory from other forms of qualitative research (Holton, 2008). The researchers should thoroughly describe the steps and considerations of the sampling procedure to make this process clear for the reader. In grounded theory studies, the study sample and data sources are not set a priori to initiation. The study begins with an inductive selection through the study aim of participant and data sources, which Glaser (Cutcliffe, 2000) and Charmaz (Charmaz, 2014) call 'initial sampling' and which Strauss and Corbin call 'open, relational and variational' (Chen & Boore, 2009; Strauss & Corbin, 1990). The researchers should describe and explain the inductive selection of participants and data sources provides knowledge for the reader about which considerations were made in selecting the first participants and data sources (Charmaz, 2006; Glaser, 1998; Strauss & Corbin, 1990). The concepts derived through initial data collection, analysis and coding serve thereafter as a theoretical guide towards further data collection and participant selection – called theoretical sampling (Kennedy & Lingard, 2006; Cutcliffe, 2000). Theoretical sampling is an ongoing deductive process, which determines where to collect data next (settings and data sources), how to collect that data (data collection method), and who can say something about this (inclusion of participants) based on concepts and categories derived from analysis and coding (Charmaz, 2006; Glaser, 1998; Strauss & Corbin, 1990).

The theoretical sampling process in grounded theory research thereby differs from the sampling procedures in qualitative research where the focus is on broad participant characteristics through purposive, convenience, consecutive sampling and snowballing (Tong et al. 2007). The researchers should be specific about how they used theoretical sampling to select data sources and participants to illuminate the process throughout the study.

3.4.7. Theoretical saturation

In grounded theory research the aim of theoretical saturation is to densify the concepts and categories of the emergent theory (Charmaz, 2006; Glaser, 1998; Strauss & Corbin, 1990), which differs from saturation or redundancy

in qualitative research where sampling of participants ideally continues to the point where no new information is obtained (Patton, 2002). Saturation in grounded theory is therefore theoretical because it is based on saturation of theory, where data collection, analysis, and coding should cease because no new insights are relevant to the core category or emergent theory (Kennedy & Lingard, 2006; Chen & Boore, 2009). The researchers should explain how they reached theoretical saturation for the reader to see this distinction.

3.4.8. Analysis and coding

Analysis and coding are complex levels in grounded theory studies that occur simultaneously with data collection, theoretical sampling and memo-writing – distinguishing grounded theory from qualitative research where data collection and analysis are done separately (Polit & Beck, 2014). In grounded theory analysis and coding is performed on three levels: initial and open coding in the inductive phase, the more focused and selective coding according to concurrent concepts and categories in the deductive phase, and theoretical coding to structure the theory to a progressive level of abstraction (Chen & Boore, 2009; Charmaz, 2006; Glaser, 1998; Strauss & Corbin, 1990).

It is important that the researchers describe the concurrent process of analysis and coding to allow the reader to follow every step of this process and to assess how the researchers have kept the analysis and coding grounded in data. The researchers should also describe which concepts guided the specific coding levels to make the identification specific. The constant comparison method and simultaneous data collection, analysis and coding are unique methods for grounded theory (Charmaz, 2006; Glaser, 1998; Strauss & Corbin, 1990). The focus of the constant comparison method is to compare concepts and categories developed during analysis and coding with new data from the data collection (Kennedy &Lingard, 2006; Charmaz, 2006). The researchers should describe how they compare incidents with incidents, incidents with categories and categories with categories to demonstrate their understanding of the process and their perceptions about the emerging concepts and categories (Charmaz, 2006; Glaser, 1998; Strauss & Corbin, 1990). The researchers should also describe and explain how they performed the simultaneous data collection, analysis and coding, which were guided by the theoretical sampling, in order to enhance the readers' understanding of the researchers' focus.

3.4.9. Review of literature

In grounded theory the point in time at which the literature review is carried out differs between the three approaches. There are two kinds of literature review in a grounded theory. The 'classic' initial review, as done in qualitative research, where literature about the study aim and background is performed prior to the study (Mellion & Tovin, 2002; Charmaz, 2006) and the more grounded theory-specific review conducted on the basis of the emerging concepts and theory after the theory is developed (Becker, 1993; Glaser, 1998). Glaser (Chen & Boore, 2009; Valvi et al. 2013) implies that the initial review should be avoided to elude preconceived theories and research which might influence the researchers' grounding in data. Charmaz (Charmaz, 2006) and Strauss and Corbin(Mellion & Tovin, 2002; Cutcliffe, 2000; Strauss & Corbin, 1990), however, recommend a general reading of the literature prior to the study to formulate questions and to expand the contextual framework; an extensive review is delayed but not avoided. The three grounded theory approaches agree that the extensive review should be performed after the theory has been developed (Mellion & Tovin, 2002; Chen & Boore, 2009; Cutcliffe, 2000). The researchers should therefore make their considerations about the point in time at which they conducted a review apparent; they should report on whether or not they conducted an initial review and how they conducted the literature review after theory development. This is to enable the reader to evaluate the consistency of the researchers' methodological adherence.

3.4.10. Results/ the theory

In grounded theory the theory that has been built from the beginning of the study is the result. The fulcrum of the theory is the core category (Glaser, 1978), central category (Strauss & Corbin, 1990) or basic social process (Charmaz, 2006) which should be grounded in data and used to identify the overall pattern of behaviour, constructs of social interactions or phenomena in the substantive area (Becker, 1993; Mellion & Tovin, 2002) based on the main concern of the participants. The researchers should provide a thorough conceptualisation of the theory and its related categories and process to allow the reader to evaluate the theory's density and relationships (Cutcliffe, 2000). The real challenge in grounded theory is developing a theory that is conceptualised and not just a description of the categories (Kennedy and Lingard, 2006). The use of excerpts of the transcribed literature or quotes to describe the theory vary between the grounded theory approaches. Charmaz (Charmaz, 2006) and Strauss and Corbin (Mellion & Tovin, 2002; Strauss & Corbin, 1990) use quotes from the data material to describe the theory. However Glaser (Glaser, 1998; Kennedy &

Lingard, 2006) describe how quotes are often mistakenly used in grounded theory studies since these excerpts do not in themselves explain the overall behaviour, social interactions or phenomena under study (Kennedy & Lingard, 2006). Grounded theory calls upon a theoretical explanation and it is important that the researchers argue for the use of quotes in the results sectionwhen writing the theory.

3.4.11. Discussion

In the discussion section of a grounded theory study, concepts derived from the literature review conducted after theory building are used to make comparisons of the concepts and categories of the theory, and to discuss why key relationships exist and what they mean (Mellion & Tovin, 2002; Kennedy & Lingard, 2006). The discussion draws on other empirical findings and theories, with the aim of explaining the theory at a higher level of abstraction. The researchers should make sure that the key relationships between the categories and concepts in the theory are discussed and related to the relevant literature.

3.4.12. Evaluation criteria

Any research approach should be evaluated by criterions soothed for the specific approach hence grounded theory is not evaluated exclusively by qualitative criteria but by the very constructs that were used to develop it (Elliott & Lazenbatt, 2005). Qualitative researchers use the criteria of credibility, dependability, transferability and confirmability to evaluate the trustworthiness of a qualitative study as referred to by Lincoln and Guba (1985). Strauss and Corbin's methodology is more closely related to the qualitative methodological approach than Charmaz and Glaser, why they evaluate the quality of a grounded theory study by validity, reliability and credibility (Hutchinson et al. 2011; Strauss & Corbin, 1990). Glaser and Charmaz use the evaluation criteria of fit, work, relevance and modifiability (Hutchinson et al. 2011; Charmaz, 2006; Glaser, 1978), which originated from Glaser and Strauss' presentation of grounded theory in 1967 (Glaser and Strauss, 1967). However, Charmaz takes the evaluation a little further and engages the criteria of credibility, originality, resonance and usefulness (Hutchinson et al. 2011; Charmaz, 2006). The researchers must be specific about the chosen approach and they must present and explain its criteria for evaluating the quality of a grounded theory study, in order to allow the reader to assess the consistency of the grounded theory study.

4. Discussion

In this study we present a 25 item guideline covering 12 main areas describing the essential elements of reporting and evaluating grounded theory research studies. The guideline is proposed as a framework for researchers and readers who already have a basic knowledge of grounded theory. We have not provided a guideline for inexperienced peers: they must be prepared to acquire the basic skills of grounded theory from the relevant literature beforehand rather the GUREGT is offered as a guideline for reporting and evaluating the final grounded theory research study. Journal editors can support their reviewers and authors in finding missing information in grounded theory papers and improve the distinguishing methodological features of grounded theory by providing and facilitating GUREGT. At this moment, we cannot present empirical evidence that GUREGT is successful in improving the quality of the reporting and evaluation of grounded theory research studies. However, we offer GUREGT to facilitate and propose a quality assessment of grounded theory research studies in the same way that other guidelines for the reporting and evaluating of research have done (Tong et al. 2007; Moher et al. 2001).

Among qualitative methodologists, there is a looming debate around methodological orthodoxy/purity versus methodological creativity and flexibility and further rich discussion of how these factors play into evaluations of the quality and rigor of studies (Sandelowski, 2011, Cutcliffe & Harder, 2012). Sandelowski (2011) explains how hard lines are often drawn between e.g. grounded theory and ethnographic studies as well as between qualitative and quantitative studies. Sandelowski (2011) state that selecting a method is not necessarily selecting a specific approach for a research method rather moving between and across the lines for alternative takes on data. Cutcliffe and Harder (2012) also question the necessity for methodological precision to uphold a rigor however they argue that qualitative researchers must stay true to the epistemology and ontology of the methodologies or otherwise present a clear reason for alteration. The use of checklists and methodological guidelines in qualitative research and grounded theory can be a tightrope balance if the essence and quality of the study are reduced to a list of technical procedures (Barbour, 2001). Grounded theory are flexible tools rather than rigid rules (Hallberg, 2006) and aim to develop theory that covers the overall behaviour, social interactions between humans and social phenomena; they focus on participants' meaning and processes to explore 'what' is going on (Glaser, 1998), 'how' and 'why' (Becker, 1993; Cutcliffe, 2000; Mellion & Tovin, 2002). Even though grounded theory refers to methods for handling data such as the constant comparison method and theoretical sampling, these methods can be interpreted and conducted in different ways (Cutcliffe & Harder, 2012). In

that context the GUREGT may be useful by providing a methodological focus for the user while focusing on the density of the theory.

5. Conclusion

Grounded theory is a distinctive part of qualitative research and should be reported and evaluated according to its own methodology and criteria for quality – GUREGT is presented for this purpose. We anticipate that researchers and readers applying GUREGT when reporting and/or evaluating grounded theory research studies will improve their abilities to identify important information missing in the grounded theory manuscripts as well as to preserve the meaningful essence and theoretical sensitivity of grounded theory studies.

Further research is needed to validate the GUREGT by including international researchers in an expert panel for evaluation panel as well as to test the GUREGT by evaluating the quality of grounded theory studies. We invite other researchers to develop approach-specific guidelines for other methodologies in qualitative research such as phenomenology, hermeneutic and ethnographic in order to further enhance the trustworthiness, rigor, quality, legitimacy and greater recognition of qualitative research.

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